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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/760,632 | 01/21/2004 | Akihiro Ozeki | 008312-0307820 | 8245 |

909 7590 07/12/2006

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| EXAMINER |
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KALAFUT, STEPHEN J

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| ART UNIT | PAPER NUMBER |
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1745

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,632

Applicant(s)

OZEKI, AKIHIRO

Examiner

Stephen J. Kalafut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date (5 dates).
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-8, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizuno *et al.* (JP 2001-163063), cited by applicant.

Mizuno *et al.* disclose a vehicle comprising a body (2) to which is a fuel cell stack (10) is rotatably attached (section 0007). The fuel cell produces electric power from a chemical reaction (section 0004) to power the vehicle. The vehicle also includes a sensor for determining the tilt of the fuel cell and an alarm that indicates excessive tilt to a user of the vehicle, and which is reset, thus stopping the excess tilt indication, when the tilt is no longer excessive (sections 0049-0052). This alarm would constitute a display. Because the fuel cell, sensor and alarm are electrical components, the vehicle would also constitute an electronic apparatus.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno *et al.*, *supra*.

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These claims differ from Mizuno *et al.* by reciting the indication of the angle of the tilt. This, however, would be obvious to the ordinary artisan, who would be familiar with the various indicators commonly used on vehicles. For example, vehicles have commonly included gas gauges, which indicate the amount of gasoline in the tank, and not just an alarm when the amount of gasoline passes below a threshold. For this reason, it would be obvious for the vehicle of Mizuno *et al.* to include a tilt indicator gauge, in addition to the alarm for excessive tilt.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno *et al.* in view of Margiott *et al.* (US 6,093,500).

This claim differs from Mizuno *et al.* by reciting that the operation of the fuel cell is stopped when the tilt reaches a second excessive value, or after a period of time following the original indication of excessive tilt. Margiott *et al.* teach that a fuel cell may need to be shut down if a monitored parameter is outside of an acceptable range (column 1, lines 40-42). For this reason, it would be obvious to enable the fuel cell of Mizuno *et al.* to shut down as taught by Margiott *et al.* if its measured tilt is excessive, beyond the tilt that triggers the alarm.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno *et al.* in view of Margiott *et al.* as applied to claim 12 above, and further in view of Iwasaki (US 6,447,939).

The above combination does not teach a secondary battery used to give a second alarm after the fuel cell stops operating. Iwasaki discloses a vehicle powered by a fuel cell (21), which also includes a battery (27) used to back up the fuel cell (column 4, lines 10-11). The battery

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may be charged or discharged (column 3, lines 54-61), and thus would be a secondary battery.

Because fuel cell shutdown would be a problem that would need to be indicated, and because of the teaching of Iwasaki to use a battery to back up a fuel cell, it would be obvious to back up the fuel cell of Mizuno *et al.* with a battery as shown by Iwasaki, and to use the battery to power the indication of the fuel cell shutdown as shown by Margiott *et al.*

The disclosure is objected to because of the following informalities: On page 7, line 16, the specification refers to "figure 2". However, while there are figures 2A and 2B, there is no figure 2 (*i.e.*, without a letter). The numbers mentioned in the paragraph are in figure 4. Appropriate correction is required.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shimizu *et al.* (US 4,562,123) disclose a fuel cell that is required to operate when it is tilted up to 45°. Isoda *et al.* (US 6,515,580) disclose a vehicle with a tilt sensor used to indicate an attempt at theft. Sakue *et al.* (US 2004/0062960) discloses a fuel cell with a control that insures its safety even if tilted. A computer-generated English translation of Mizuno *et al.*, obtained from the website of the Japanese Patent Office, is enclosed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

sjk



STEPHEN KALAFUT
PRIMARY EXAMINER
GROUP 1700